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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/906,999 | 07/16/2001 | Robert C. Martin | P137-US | 6480 |
| 27521 | 7590 | 04/13/2004 | EXAMINER | |
| KEN BURRASTON KIRTON & MCCONKIE PO BOX 45120 SALT LAKE CITY, UT 84145-0120 | | | KOBERT, RUSSELL MARC | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2829 | |

DATE MAILED: 04/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/906,999

Applicant(s)

MARTIN ET AL.

Examiner

Russell M Kobert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 13-43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date July 28, 2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. Applicant's election without traverse of Invention I, Species (a), Sub-species (b₁), claims 1-12 in the Election filed November 10, 2003 is acknowledged.

2. Claims 13-43 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention and/or Species, there being no allowable generic or linking claim. Election was made **without** traverse in the Election filed November 10, 2003.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5, 8 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Krivy et al (6239590).

Krivy et al anticipates (Figure 9) a tip structure for a contact element, comprising
a pad (42);

a contact tip (any one of probe contacts labeled 40) disposed on a surface of the pad and having a distal end protruding above the surface of the pad; and

an alignment mark (any other one of probe contacts labeled 40) fixed relative to the pad and spaced apart from the contact tip (see also column 10, lines 47-49); as recited in claim 1.

As to claims 2-5, having the alignment mark recessed below the surface of the pad, the alignment mark protrude above the surface of the pad, the alignment mark comprising a shape selected from a pyramid, an elongated pyramid, a cross, a circle, a square, a triangle, and parallel lines, and the alignment mark disposed on the pad entirely substantially below the distal end of the contact tip are considered limitations within the scope of the apparatus disclosed in Krivy et al (see col 2, ln 53 – col 3, ln 8; col 5, ln 5-9, 17-65; and col 11, ln 37-45).

Krivy et al anticipates (Figures 1 and 10D) a contactor for contacting a semiconductor device (42) in wafer form, the contactor comprising:

a plurality of contacts (20) disposed on a substrate to present a plurality of contact tips (32) having their distal tips in a plane substantially parallel to the substantially planar surface; and

a plurality of alignment marks (18) disposed on the contactor substantially below the plane wherein the distal tips of the contact tips are disposed; as recited in claim 8.

As to claim 12 having at least selected ones of the plurality of contacts further comprising a tip structure, the tip structure comprising a first pad (20, 28), and a contact tip (32) attached to the first pad, and a second pad (20, 28) in substantially the same plane as the first pad, the second pad comprising at least one (18) of the plurality of alignment marks is shown in Krivy et al.

5. Claims 1-3, 5, 6 and 8-11 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hajime (JP10160793).

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Masao (JP06209033).

7. Claim 1 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Akram et al (6285203; Figure 10C).

8. Claims 6 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Akram et al (6285203).

Akram et al anticipates a contactor (Figures 10A-C and Figure 13B) for contacting a semiconductor device, the contactor comprising:

a plurality of contact structures (26) disposed on a substrate and presenting a plurality of contact tips (104) each for contacting a terminal of the semiconductor device;
and

means for aligning (26A, 134 and 138) each of the plurality of contact tips with a terminal of the semiconductor device (see also col 12, ln 11-20); as recited in claim 6.

As to claim 7 having the means for aligning further comprising a plurality of alignment marks on at least selected ones of the plurality of microelectronic contact structures and spaced apart from the plurality of contact tips is considered an inherent

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characteristic of alignment means 26A (each sloped side wall of alignment means 26A is an alignment mark).

9. Claim 6 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Krivy et al (6239590; Figure 9).

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krivy et al (6239590) as applied to claim 8 above, and further in view of Akram et al (6285203).

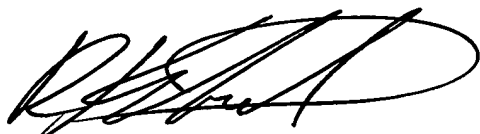
As to claim 9, Akram et al shows (Figure 10C) at least selected ones of the plurality of contacts further comprise a tip structure (104), the tip structure comprising a pad (upper portion of via 106), a contact tip attached to the pad, and at least one of the plurality of alignment marks (sloped side wall of alignment means 26A attached to the pad).

As to claims 10 and 11, having at least one of the plurality of alignment marks recessed below a surface of the pad or at least one of the plurality of alignment marks raised above the surface of the pad are considered limitations within the scope of the apparatus disclosed in Krivy et al (see col 2, ln 53 – col 3, ln 8; col 5, ln 5-9, 17-65; and col 11, ln 37-45).


It would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the teaching of Akram et al to that of Krivy et al to make the claimed invention because Krivy et al teach the use of improved alignment members for combining positional alignment using any combination of optical, electrical and guiding means during electrical engagement between probe tips and semiconductor devices.

13. A shortened statutory period for response to this action is set to expire three month(s) from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Kobert whose telephone number is (571) 272-1963. The Examiner's Supervisor, Kammie Cuneo, can be reached at (571) 272-1957. For an automated menu of Tech Center 2800 phone numbers call (571) 272-2800.



Russell M. Kobert
Patent Examiner
Group Art Unit 2829
March 31, 2004



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